

**AMENDMENTS TO THE CLAIMS**

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Claim 1. (Original) An automated trading system for use in an electronic exchange system network, comprising:  
a receiver interface that receives market price information for a first traded item from an exchange;  
data reference logic that outputs a transaction value for the first traded item from a data structure based on price information for a second traded item related to the first traded item;  
decision logic using at least a portion of the received market price information and the transaction value to generate a decision whether to submit an order for the first traded item; and  
an output interface for outputting a request for market transaction for one of the first traded item and the second traded item for transmission to the exchange in response to said decision logic.

Claim 2. (Original) The automated trading system according to claim 1, wherein data reference logic receives current price information for the second traded item and uses the current price information to output the transaction value.

Claim 3. (Original) The automated trading system according to claim 2, wherein said data reference logic comprises:  
memory storing the data structure, wherein the data structure maps pre-calculated transaction values of the first traded item over a range of price values of the second traded item; and  
reference logic for identifying one of the pre-calculated transaction values based at least in part on a current price value for the second traded item.

Claim 4. (Original) The automated trading system according to claim 3, wherein the data structure is a two-dimensional data structure mapping pre-calculated transaction values of the first traded item over a range of prices of the second traded item.

Claim 5. (Original) The automated trading system according to claim 3, wherein the data structure is an n-dimensional data structure, where n is 3 or more.

Claim 6. (Original) The automated trading system according to claim 3, wherein the data structure is a look-up table.

Claim 7. (Original) The automated trading system according to claim 3, wherein the data structure comprises a linked list.

Claim 8. (Original) The automated trading system according to claim 3, wherein the data structure comprises a tree structure.

Claim 9. (Original) The automated trading system according to claim 1, said decision logic compares at least a portion of the received market price information to the transaction value when automated trading in the first item first becomes enabled.

Claim 10. (Original) The automated trading system according to claim 1, further comprising safety check logic, responsive to said decision logic, to prevent transmission of a request for market transaction for the first traded item to the exchange if the request does not meet a predetermined criterion.

Claim 11. (Original) The automated trading system according to claim 10, where the predetermined criterion is maximum trade quantity for the first traded item.

Claim 12. (Original) The automated trading system according to claim 10, wherein said predetermined criterion is a maximum number of market transaction attempts within a predetermined period of time and said decision logic compares at least a portion of the received market price information to the transaction value when the maximum number of attempts is increased.

Claim 13. (Original) The automated trading system according to claim 1, where the receiver interface receives the market price information for the first traded item indirectly from the exchange via an exchange interface.

Claim 14. (Original) The automated trading system according to claim 1, wherein the decision logic compares the transactional value to at least a portion of the received market price information.

Claim 15. (Original) The automated trading system according to claim 14, wherein the transaction value is a minimum sell price for the first traded item, and the market price information includes a market bid price for the first traded item.

Claim 16. (Original) The automated trading system according to claim 14, wherein the transaction value is a maximum buy price for the first traded item, and the market price information includes a market ask price for the first traded item.

Claim 17. (Original) The automated trading system according to claim 14, wherein the transactional value is a theoretical value of the first traded item based on a mathematical model.

Claim 18. (Original) The automated trading system according to claim 14, wherein the price information for the second traded item corresponds to a current market price for the second traded item and said decision logic generates a comparison when the current market price for the second traded item changes.

Claim 19. (Original) The automated trading system according to claim 14, wherein said price information for the second traded item corresponds to a current market price for the second traded item and said decision logic generates a comparison when the price information for the first traded item changes.

Claim 20. (Original) The automated trading system according to claim 1, wherein a backend computer includes said receiver interface, said data reference logic, said decision logic, and said output interface and said first backend computer operates using a Windows-based operating system.

Claim 21. (Original) The automated trading system according to claim 1, wherein a backend computer includes said receiver interface, said data reference logic, said decision logic, and said output interface and said first backend computer operates using a text-based operating system.

Claim 22. (Original) The automated trading system according to claim 21, further comprising a trader station separate from said backend computer, said trader station coupled to said backend computer through a communication link, said trader station including a graphic user interface to enable a trader to monitor the operation of said backend computer.

Claim 23. (Original) The automated trading system according to claim 22, wherein said trader station transmits updated data reference information for updating said data reference logic

to said backend computer over the communication link.

Claim 24. (Original) The automated trading system according to claim 23, wherein said decision logic compares at least a portion of the received market price information to the transaction value when the data reference information is updated.

Claim 25. (Original) The automated trading system according to claim 23, wherein said trader station calculates the updated data reference information and the backend computer stores the calculated updated data reference information.

Claim 26. (Original) The automated trading system according to claim 22, wherein said backend computer is located substantially closer than said trader station to the exchange that transmits the market price information for the first traded item.

Claim 27. (Currently Amended) An automated trading method for use in an electronic exchange system network, comprising:

using equipment to perform trading of a first traded item or a second traded item related to the first traded item, including:

receiving market price information for a the first traded item;

identifying a desired price for the first traded item in a look-up table based on price information for a the second traded item ~~related to the first traded item~~;

comparing the received market price information for the first traded item to the desired price for the first traded item; and

generating an order for one of the first traded item and the second traded item based on the comparison of the received market price information to the desired price.

Claim 28. (Original) The automated trading method according to claim 27, wherein said first traded item corresponds to an option and the second traded item corresponds to a security underlying the option.

Claim 29. (Original) The automated trading method according to claim 27, wherein said step of identifying a desired price, comprises:

- (a) receiving current market price information for said second traded item;
- (b) using said current market price information for said second traded item to index a desired price for said first traded item in said look-up table.

Claim 30. (Original) The automated trading method according to claim 27, wherein said look-up table comprises a two-dimensional table providing desired price values indexed by item traded and price of the second traded item.

Claim 31. (Original) The automated trading method according to claim 27, wherein said look-up table comprises an n-dimensional table, where n is 3 or more.

Claim 32. (Currently Amended) An automated method of trading in an exchange system network, comprising:

using equipment to perform trading of an option, including:

- receiving a current market price for ~~an~~ the option from an exchange;
- comparing the current market price for the option with a desired price for the option, said desired price derived from current price information for an underlying security for the option; and
- submitting an order for the option to the exchange within 1 millisecond of the step of receiving the current market price.

Claim 33. (Original) The automated trading method according to claim 32, wherein said step of submitting an order is performed within 600 microseconds of the step of receiving the current market price.

Claim 34. (Original) The automated trading method according to claim 33, wherein said step of submitting an order is performed within 380 microseconds of the step of receiving the current market price.

Claim 35. (Original) The automated trading method according to claim 34, wherein said step of submitting an order is performed within 250 microseconds of the step of receiving the current market price.

Claim 36. (Currently Amended) An automated trading method for use in an exchange system network, comprising:

using equipment in a network architecture to perform trading of a first traded item,  
including:

receiving market information for a the first traded item;

identifying a transaction value for the first traded item in a look-up table of transaction values for the first traded item, wherein the identifying is responsive to receiving the market information for the first traded item and wherein the transaction values in the look-up table are based on price information for a second traded item related to the first traded item; and

using at least the identified transaction value in determining whether to submit an order for the first traded item.

Claim 37. (Original) The automated trading method according to claim 36, wherein the identified transaction value is a volatility value corresponding to the first traded item.

Claim 38. (Original) The automated trading method according to claim 36, wherein the identified transaction value is a maximum buy value for the first traded item.

Claim 39. (Original) The automated trading method according to claim 36, wherein the identified transaction value is a minimum sell value for the first traded item.

Claim 40. (Original) The automated trading method according to claim 36, wherein the identified transaction value is a theoretical value for the first traded item generated based on a mathematical model.

Claim 41. (Original) The automated trading method according to claim 36, wherein the look-up table comprises a linked list.

Claim 42. (Original) The automated trading method according to claim 36, wherein a backend computer performs the receiving, identifying, and using steps on a Windows-based operating system.

Claim 43. (Original) The automated trading method according to claim 36, wherein a backend computer performs the receiving, identifying, and using steps on a text-based platform.

Claim 44. (Original) The automated trading method according to claim 36, wherein:

- (a) a backend computer performs the receiving, identifying, and using steps,
- (b) a trader station separate from said backend computer calculates transaction values for storage in the look-up table and transmits the calculated transaction values to the backend computer, and
- (c) the backend computer stores the calculated transaction values in the look-up table.



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Claim 45. (Original) The automated trading method according to claim 44, further comprising the steps of checking values stored in the look-up table of the backend computer with values stored in a look-up table in said trader station to confirm the accuracy of the look-up table stored in the backend computer.

Claim 46. (Original) The automated trading method according to claim 36, further comprising the steps of:

- (a) submitting an order for the first traded item;
- (b) receiving confirmation of a transaction from an exchange responsive to the order submitted; and
- (c) submitting an order for the second traded item to hedge a delta risk associated with the confirmed transaction.

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